

NEBC MEETING NEWS

June 2000 Field Trip. On Friday afternoon, Mt. Tekoa in Westfield, Massachusetts, was climbed by 14 members and guests to examine the effects of repeated fires on a rocky outcrop community. The mountain is a prominent rocky ridge behind the former Stratford Paper Company mills, and is a prominent landmark viewed from the eastbound Massachusetts Turnpike. The ridge has burned twice in the last six years. The group hiked up through densely re-sprouting oak, hickory, red maple, chestnut, mountain laurel, and witch hazel to the summit, where the oak-pitch pine community was starting to regenerate. Several species of *Vaccinium* were dominant, and promised good berry picking later in the season. Highlights of the walk included the ant-dispersed sedge *Carex umbellata*, *Asclepias purpurascens*, and *Geranium bicknellii* (or *caroliniana*). Thirteen species of *Carex* were observed. Blackflies, thunder, lightning, and a brief downpour added excitement to the experience, and presaged the early evening storm that toppled sugar maples on the Mount Holyoke campus.

June 2000. On Friday evening, Dr. Elizabeth Farnsworth of Smith College spoke on “Present and future impacts of invasive plant species on wetland systems.” She discussed the impacts that invasive species currently have on wetland systems, and what impacts they may have in a future of climatic change.

Based on county-level floras and checklists, Massachusetts and Connecticut currently have the largest number of invasive plant species (approximately 60 and 50) and observed invasions, with a positive correlation between the number of invasive species and the size of the human population.

Dr. Farnsworth described her research on *Lythrum salicaria* in Connecticut, comparing species diversity and biomass in wetlands dominated by *Lythrum* to wetlands that were composed of native species. Studies showed *Lythrum* did not suppress diversity of other plant species, but did reduce biomass, and that *Lythrum* may capture resources more efficiently than other species, changing the wetland’s nutrient and detrital dynamics. *Phragmites australis* was studied at two sites where it had been removed by spraying glyphosate herbicide. Removal was associated with a dramatic increase in the abundance and diversity of other wetland species,

resulting in a wetland species composition similar to undisturbed freshwater tidal marshes.

Dr. Farnsworth looked at the future of invasive species dynamics, in the probable scenario of continued increases in atmospheric CO₂ and other greenhouse gas emissions, particularly since marshes are currently effective as carbon sinks. She examined the ways that photosynthesis and water use differ among invasive (*Phragmites* and *Typha angustifolia*) and non-invasive (*Leersia oryzoides* and *Spartina alterniflora*) species of freshwater and salt marshes, with respect to the seasonal length of effective photosynthesis, photosynthetic rates, and nutrient balance. Changing species composition in wetlands toward dominance of one or two invasive species will likely alter carbon cycling in wetlands, which in turn may have a climatic feedback effect.

June 2000 Workshop and Field Trip. On Saturday, five members participated in a workshop, offered by Lisa Standley, on the identification of *Carex*. Following a lecture and slide presentation, which included discussion of the best keys and references as well as important diagnostic features, the group hiked up Bare Mountain in the Holyoke range. Twelve early-flowering woodland species of *Carex* were found, including *C. platyphylla*, *C. albursina*, *C. laxiflora*, *C. digitalis*, *C. communis*, *C. albicans*, and *C. hirsutella*. The woodland bulrush, *Scirpus verecundus* was abundant.

A small group journeyed to nearby Lawrence Swamp and Elf Creek Conservation area to hunt for ferns. Led by the intrepid Don Lubin, the group searched successfully for a nice population of *Lygodium palmatum* at Elf Creek, but failed to find the reported *Ophioglossum pusillum* at Lawrence Swamp. Among highlights of the natural areas and Caroline Arnold's garden in North Amherst were *Dryopteris clintoniana*, *Botrychium*, and *Selaginella apoda*.

July 2000 Field Trip: In the Footsteps of Fernald. George Newman led a party of 21 Club members and family around the Gaspé Peninsula of Quebec, from Mont Albert in the central mountains to Grand Rivière on the southeast coast. Merritt Lyndon Fernald botanized the Gaspé from 1902 to 1934. During this period, 143 of the 200 new taxa that he named were based on populations on the Gaspé. Many of the taxa Fernald named are no longer recognized as distinct species or varieties, but are thought to be disjunct populations of variable western or circumboreal taxa. The

area also provided much of the support of his “nunatak” theory to explain the presence of western and arctic disjuncts. Fernald was followed on the Gaspé by a series of remarkable Canadian botanists, including Fr. Marie-Victorin, Jacques Rousseau, Ernest Lepage, and A. E. Porsild, among others.

The group sampled most of the range of habitats of the Gaspé: serpentine barrens, *Thuja* bogs and valleys, beaches, sea cliffs, scree summits, talus slopes, limestone cliffs, coastal spruce-fir forests, and wide gravel rivers. Unusual ferns were abundant: *Polystichum scopulinum* (a western serpentine endemic), *Aspidotis densa*, *Cystopteris montana*, *Dryopteris fragrans*, and *Adiantum aleuticum* at Mont Albert; *Polystichum lonchitis* at Cap Bon Ami in Forillon National Park; *Dryopteris filix-mas* at many locations; *Cryptogramma stelleri* on limestone; and tiny *Botrychium lunaria*. Orchids were also frequently observed. We saw abundantly blooming *Orchis rotundifolia* in a *Thuja* bog in the Parc Gaspésie. At other locations, particularly on Bonaventure Island, we saw *Platanthera dilatata*, *P. hyperborea*, *P. obtusata*, *P. orbiculata*, *Listera cordata*, *L. convallarioides*, *Coralorhiza maculata*, *C. striata*, *Goodyera repens*, and amazingly, *Cypripedium parviflorum* var. *parviflorum* growing on the dry limestone cliffs and talus at Cap Bon Ami.

The dry scree summits and ledges of Devonian sandstone and conglomerates yielded a western montane/alpine flora that included *Arnica chionopappa*, *Saxifraga cernua*, *S. caespitosa*, *S. aizoon*, *Anemone multifida*, *Erigeron compositus*, *Hedysarum alpinum*, *Shepherdia canadensis*, *Elaeagnus commutata*, *Senecio multiradiata*, *Oxytropis*, and *Astragalus scrupulicola*. The wet, mossy sea cliffs along the north coast harbored *Pinguicula vulgaris*, *Saxifraga aizoides*, *Parnassia parviflora*, *Malaxis brachypoda*, *Polygonum viviparum*, and *Primula laurentiana*. Shale and cobble sea beaches contained *Mertensia maritima*, *Senecio pseudo-arnica*, *Iris hookeri*, *Anemone canadensis*, and *Zygadenus glauca*. The serpentine barrens of Mont Albert were one of the highlights of the trip, both visually and botanically, with *Lychnis alpina*, *Armeria labradorica*, *Artemesia borealis*, various *Salix* species, *Eriophorum russeolum* (*E. chamissonis*), and woodland caribou. In total, the group recorded 415 species of vascular plants in 65 families (including 34 species of *Carex*), and 47 species of ferns and fern allies.

—LISA STANDLEY, Recording Secretary *pro tempore*.